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ABSTRACT

This study investigated the possibility that episodes that deviate from a routine event script are retained in memory, tagged by their unique characteristics. Three groups of 9 preschool children experienced one of three deviations in their normal snack routine: (1) a puppet handed out the snack; (2) a puppet taught the children to play a game during snack time; or (3) the children had a Mickey Mouse party during snack time. One week later, children were asked to recall the deviation episode, first freely, and then with cues. Analyses focused on the effect of the type of deviation on children's memory and effects of cues on children's recall. Results were consistent with the idea that deviations from routine events are stored in long-term memory, and that the type of deviation influences which aspects of an event will be recalled. Appended are two tables of quantitative data and three references. (GLR)

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Preschool children's memory for deviations in a routine event

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Preschool children have difficulty recalling specific episodes of routine events. They often confuse details of similar episodes and cannot distinguish specific memories from general event knowledge (Hudson, 1990; Hudson & Nelson, 1986). However, one study (Hudson & Fivush, 1990) found that an unusual episode of a familiar event (visiting a special archeology exhibit on a kindergarten class trip to a museum) was retained after 6 years if children were provided with specific cues and photographs. These findings suggest that routine episodes become fused into generalized event representations and are forgotten, but deviant episodes are retained in memory, tagged by their unique characteristics.

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To test this hypothesis, the present experiment introduced deviations into a routine event at a preschool day care center. Three groups of preschoolers experienced one of three types of snack deviations. During each deviation episode, a second experimenter interrupted the snack to confer with the first experimenter about how to repair a broken key ring.

Poster presented at the Conference on Human Development, Richmond, VA, March, 1990. Requests for reprints should be sent to Elisa Krackow, 107 Brent Drive, Wallingford, PA 19086.

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One week later children were asked to recall the "snack when the puppet came" and were also asked specific questions about the event. Analyses focused on the effect of the type of deviation on children's memory and effects of cues on children's recall.

Method

Subjects

Three groups of 9 preschool children (mean age 4;3) participated in the study.

Procedure

Each group of children was taken to a different room in their day care center for snack. After at least 3 snacks in the new room, a deviation was introduced in the next snack.

Deviation Snacks

Puppet Group: An experimenter introduced children to a panda bear puppet who handed out the snack.

Game Group: An experimenter introduced children to a panda bear puppet who handed out the snack **and** played a game with the children during snack. The game was called Stop n' Go. When the experimenter played a musical tape the children could eat their snack. When the experimenter turned the tape off, the children had to freeze, which included not eating their snack.

Mickey Group: An experimenter introduced children to a panda bear puppet and a Mickey Mouse puppet. Children had a "Mickey party" with Mickey Mouse ice cream bars, cups, straws, and napkins.

Snack Interruption

All of the deviation snacks were interrupted by a second experimenter who brought in a broken key ring (the keys were allowed to fall out on the snack table) and asked the first experimenter how to fix it.

Recall Interviews

One week after the deviation snack, children were interviewed individually and asked what they could remember about the snack.

Free recall: Children were first told, "Tell me what happened at snack the day the puppet came" and were given general prompts ("What else happened?" " Can you remember anything else?").

Cued recall: Next children were asked specific questions about what they did, what they ate, what the puppet's name was, whom they sat next to, and what happened when the second experimenter entered the room (cued recall).

Coding

All interviews were tape recorded, transcribed, and recall responses were coded into the following categories:

Puppet (panda puppet only): The name of the panda puppet, the kind of puppet, what he looked like

Puppet actions: Actions performed by the panda puppet

Actions: Actions performed by the experimenter or the children including actions relating to the game

People: Who was there, the child they sat next to

Props: Mention of cups, napkins, straws, the Mickey puppet, what things looked like

Food: What they ate and drank for snack

Interruption: Recall of the broken key ring interruption; what happened, what was said.

Other: Evaluative comments ("I liked that") or miscellaneous background information ("Shauna's my best friend")

Reliability

Twelve transcripts were independently coded by the 2 investigators. Intercoder reliability was 92%. One investigator coded the remaining transcripts.

Predictions

If deviations from the typical event sequence are tagged in memory by their distinctive characteristics, then children should recall the specific deviations, but could still have difficulty recalling the more typical aspects of the snack.

Thus, children in the game group should recall relatively more actions and children in the Mickey group should recall relatively more props than children in the puppet control group.

The snack interruption should be recalled equally well by all groups because it was irrelevant to the snack activity.

Results

The puppet group was used as a control group in t- tests between the puppet group and the other deviation groups because the introduction of the puppet was common to all groups.

Effects of Cueing

The mean number of information units recalled by children in free and cued recall is shown in Table 1 by type of deviation group.

Children recalled more total information units in the Mickey group than in the puppet group ($p < .05$) and also tended to recall more total information units in free recall ($p = .07$).

There was a tendency for children in the game group to recall more total information units than children in the puppet control group ($p < .09$).

Effects of Type of Deviation on Context of Recall

The mean number of items recalled by deviation condition and type of information is shown in Table 2.

As expected, children in the game group recalled more actions than children in the puppet group ($p < .05$).

Also as predicted, children in the Mickey group recalled more information about the props (e.g., cups straws, ect.) than children in the puppet group ($p < .01$).

Unexpectedly, children in the game group recalled more about the broken key chain incident than children in both the puppet group ($p < .05$) and the Mickey group ($p < .05$).

Children's memory for the panda puppet, actions performed by the panda puppet, what was eaten, and people present at the snack was not affected by the deviations.

The rate of intrusions was also unaffected by the deviations; the majority of intrusions (63%) were confusions regarding what was eaten at the snack or whom they sat next to.

Discussion

These results indicate that preschool children retain long-term memories of unusual deviations of a routine event. Moreover, the

type of deviation influenced which aspects of the episodes were recalled, including both central and incidental information.

Overall, children tended to recall the specific deviations from the typical snack sequence; children who played a special game recalled those actions whereas children who participated in a Mickey party recalled the special party cups, straws, and napkins.

The Mickey party was recalled somewhat better than the game deviation. The party seemed to be more enjoyable for the children than the game, making this deviation more salient.

Interestingly, children in the game group recalled the irrelevant interruption better than children in the other conditions. Because the children in the game group were focused on the experimenter who was directing the game, they may have been more aware of the interruption than children in the other groups.

Table 1: Mean number of items recalled by condition and type of cue

	Type of recall		
Group:	Free	Cued	Total
Puppet	1.22	3.77	5.89
Game	2.33	6.67	9.00
Mickey	3.33	6.56	9.89

Table 2: Mean number of items recalled by condition and type of information

Item:	Puppet	Game	Mickey
Puppet (panda only)	.89	1.44	1.67
Puppet actions	1.33	1.11	1.33
Actions	.67	2.44	.78
People	.11	.22	.22
Props	.33	11	1.56
Food	1.33	.56*	1.89
Key incident	1.11	2.44	1.44
Other	.11	.67	1.00
Intrusions	.78	1.89	.89

* This group was not tested because they had fewer food items for snack.

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